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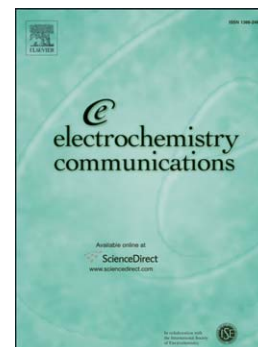
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**Fluoroethylene carbonate as an important component in organic carbonate  
electrolyte solutions for lithium sulfur batteries**

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**Abstract**

The benefits of fluoroethylene carbonate (FEC) based electrolyte solution (1 M LiPF<sub>6</sub> in FEC/dimethyl carbonate (DMC)) over ethylene carbonate (EC) based electrolyte solution (1 M LiPF<sub>6</sub> in EC/ DMC) for the cycling of sulfur/carbon (S/C) composite cathodes were demonstrated for S/C composites prepared with two drastically different types of carbon hosts, micrometer sized activated carbon powder (AC1) and carbonizes polyacrylonitrile (PAN) cloth. The formation of solid electrolyte interphase (SEI) on the surface of the cycled S/C electrodes was demonstrated using scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS).

*Keywords: Li-S batteries, fluoroethylene carbonate, SEI, sulfur cathodes, activated carbons.*

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